



## Cancer Research Center Hotline

### Skin Cancer Prevention Research Receives National Award

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Skin cancer is the most common form of cancer in the United States, and rates of skin cancer have increased dramatically over the past two decades.<sup>1,2</sup> Hawaii's southern latitude and year-round outdoor activities contribute to the risk of skin cancer for the State's residents. Even though it is common, most skin cancers can be prevented by reducing sun exposure. Given these facts, skin cancer prevention research has been a major focus in the Prevention and Control Program at the Cancer Research Center of Hawaii. Skin cancer prevention research at the Cancer Research Center has received support from federal and other sources in excess of \$3 million since 1994 to investigate and improve methods and strategies for skin cancer prevention.

Recently, *Pool Cool*, a major skin cancer prevention research project at the Cancer Research Center of Hawaii, was given the prestigious 2000 Award for Excellence in Education from the American Academy of Dermatology in the category of an innovative, coordinated program directed toward public education. The award was given at the annual meeting of the American Academy of Dermatology in Washington, D.C. in March 2001. The *Pool Cool* project is directed by Dr. Karen Glanz, a behavioral scientist, and is especially designed to promote skin cancer prevention at swimming pools. It was funded by a grant from the U.S. Centers for Disease Prevention and Control and conducted in collaboration with Alan Geller, R.N., M.P.H. at Boston University School of Medicine. The *Pool Cool* study was nominated for the award by Dr. Norman Goldstein, editor of the *Hawaii Medical Journal* and clinical professor of dermatology at the John A. Burns School of Medicine.

The *Pool Cool* skin cancer prevention program is a multi-component educational and environmental intervention that was systematically developed, pilot tested, and evaluated in a randomized trial at 28 swimming pools in Hawaii and Massachusetts. The audience is 5 to 10-year-old children, their parents, and lifeguards. The evaluation of *Pool Cool* used surveys completed by 1,010 parents at baseline and 842 parents at follow-up; and 220 aquatics staff at baseline and 194 at follow-up. Multivariate analyses showed significant positive changes in children's use of sunscreen and shade, overall sun protection habits, and fewer sunburns; and improvements in parents' hat use, sun protection habits, and reported sun protection policies. Surveys from the experimental group reported a 23% reduction in children's sunburns compared to the preceding summer, while the control group reported only a 1% reduction ( $p=0.04$ ). A dose-response trend was found for exposure to *Pool Cool* lessons and activities. Observations indicated that

there were favorable changes in availability of sunscreen, sun safety signage, and use of shirts by lifeguards. In summary, the *Pool Cool* program had significant positive effects on several sun protection behaviors and in sun-safe environments at swimming pools, and reduced sunburns among lifeguards/aquatic instructors, in two ethnically and geographically distinct audiences.<sup>3</sup> A pilot dissemination project at 186 pools in the United States and Canada demonstrated the acceptability and feasibility of *Pool Cool* in diverse settings, and a proposal for a national diffusion trial is under review at the National Cancer Institute.

The *Pool Cool* project represents an extension and adaptation of an earlier research project in outdoor recreation settings entitled *SunSmart*. The *Hawaii SunSmart* program began in 1994 with support from the Centers for Disease Prevention and Control and the Hawaii Department of Health. *SunSmart* was evaluated in a three-arm randomized controlled trial conducted at 14 recreation ("Summer Fun") sites on the island of Oahu. The program was for children aged 6 to 8 years at the sites, their parents, and recreation leaders. Sites in the education arm received staff training, on-site activities, and interactive take-home booklets. Sites in the education plus environment/policy arm received the education components plus sunscreen, portable shade tents, and policy consultations. Materials and methods were developed and selected using a social marketing process that included formative research with 216 children, 15 parents, and 25 recreation staff.<sup>4</sup> The process and short-term impact of the *SunSmart* program were evaluated through pre- and post-test surveys of parents and recreation staff, monitoring, and on-site observations. Results of a pilot study intervention showed short-term improvements in knowledge; sun protection habits of parents, children, and staff; readiness to change; sun protection policies; and sun protection norms.<sup>5</sup> The efficacy trial included 756 parents and their children, and 176 staff. Results showed that the two intervention conditions—both the educational arm and the education plus environment/policy arm—yielded improvements in sun protection practices in parents, their children, and Summer Fun staff.<sup>6,7</sup> The intervention also led to improved knowledge, more positive norms for prevention among staff, and a substantial increase in reported sun protection programs and policies in sites with the *SunSmart* program. Program implementation was high, children responded enthusiastically to *SunSmart*, and favorable changes were sustained into the fall.

Another research project at the Cancer Research Center evaluates tailored skin cancer prevention strategies in persons at moderate and high risk. This project is entitled "SCAPE" (Skin Cancer Awareness, Prevention and Education) and is funded by the National Cancer Institute. The aims of this study are to evaluate the impact of mailed tailored (i.e., personalized) interventions including risk feedback, on the skin cancer prevention and skin self-examination behaviors of high-risk and moderate-risk adults and children in grades one through three. The study will also evaluate tailored interventions in two geographically and ethnically different regions and refine skin cancer risk assessment methodologies.<sup>8</sup> Project SCAPE, a two-site study being conducted in Hawaii and on Long Island, is now in its third year. To date, a two-year trial among adults ( $n=725$ ) and children ( $n=136$ ) has been completed. The results of the first year of the adult trial showed a high rate of study completion

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- 500-1000 mg initially, then 500 mg q 8 hr
- ACTH 40 units IM q 6-12 hours
- Prednisone 20-40 mg daily or equivalent IM or IV

### Suppression of Crystal-induced Inflammation

- Joint aspiration or lavage and injection of corticosteroid
- IV colchicine 1 mg in 20 ml normal saline over 10-20 minutes; may repeat once. Do not infiltrate. Avoid if renal or hepatic failure.

### Prevention of Intercritical Gouty Attacks

- After initial response, doses can be tapered off over 7-10 days
- Then maintain on prophylactic colchicine 0.6 mg once or twice a day to prevent recurrent attacks
- If colchicine not tolerated, may use an NSAID
- Decreases frequency of gouty attacks about 50%

### Colchicine Prophylaxis for Pseudogout

– Bowles et al. *Arthritis Rheum* 1986;29:S-36

- Randomized, 1 year study

	N	Median Attacks/year	
		Pre-study	During Study
Colchicine 0.6 mg b.i.d.	10	6.5	0.5
Placebo	10	5.5	6.5

### Colchicine

- Alkaloid extract of *colchicum autumnale*: meadow saffron
- Interferes with microtubules of neutrophils → ↓ motility, chemotaxis, and chemotactic factor release at therapeutic concentrations
- Higher concentrations arrest cell division → cytopenias
- Uniquely effective for acute gout

### Colchicine Metabolism

- Rapidly absorbed; to 50% protein bound;
- Concentrates in leukocytes; binds to tubulin
- Plasma half-life 20 min, but present in leukocytes for 2 to 3 days and still measurable 10 days later
- Excreted in bile, feces and urine

### Colchicine Toxicity

- Minimal with usual doses of 0.6 to 1.2 mg daily
- D. abdominal cramping, N, V: common with oral dosing
- Chronic higher doses: cytopenias, peripheral neuritis, hair loss, amenorrhea, oligospermia, myopathy
- Overdoses: severe hemorrhagic gastroenteritis, renal failure, hepatic failure, seizures
- Fatal doses as low as 7 mg; >40 mg usually fatal

### Frequent Mistakes in Management of Gout

- Forget to aspirate joint or tophus to establish Dx
- Forget to treat both inflammation and hyperuricemia
  - NSAIDs and colchicine have no effect on serum or tissue urates
  - Allopurinol and probenecid are not analgesic or antiinflammatory
- Forget that successful treatment must continue forever
- Confuse chronic polyarticular tophaceous gout with RA

### Corrections to the February issue

The following two references to "Barriers to Good End-of-life Care: A Physician Survey," by Reiko Kayashima MPH and Kathryn L. Braun DrPH, (pp. 40-44 and p.47) were mistakenly omitted.

30. Lynn J, Arkes HR, Stevens M, Cohn F, Koenig B, Fox E, et al. Rethinking fundamental assumptions: SUPPORT, implications for future reform. *J Am Geriatr Soc* 2000;48:s214-21.

31. Sullivan MD, Ganzini L, Stuart JY. Should psychiatrists serve as gatekeepers for physician-assisted suicide? *Hastings Cent Rep* 1998;28:24-31.

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(88%), that tailored materials were rated more favorably than standard materials, and that the tailored materials group reported improved sun protection habits ( $p < .05$ ), greater perceived benefits of sun protection ( $p < .05$ ), and trends toward improved knowledge, more adequate sunscreen application, and higher perceived risk for skin cancer.

The month of May includes observances of Skin Cancer Awareness Month and National Melanoma/Skin Cancer Prevention and Detection Month. The Hawaii Skin Cancer Coalition, a statewide organization of health professionals, agencies, and consumers provides increased public education on skin cancer prevention. Skin cancer prevention research will continue to be an area of particular emphasis at the Cancer Research Center of Hawaii. For more information, please visit the website of the Cancer Research Center of Hawaii ([www.crch.org](http://www.crch.org)).

### References

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2. Jemal A, Devesa SS, Fears TR, Hartge P. Cancer surveillance series: Changing patterns of cutaneous malignant melanoma mortality rates among whites in the United States. *Journal of the National Cancer Institute* 92:811-818, 2000.
3. Geller A, Glanz K, Shigaki D, Isneec MR, Sun T, Maddock J. Impact of a skin cancer prevention program in aquatic settings: The Pool/Cool program in Hawaii and Massachusetts. *Preventive Medicine*, 2001, in press.
4. Glanz K, Carbone E, Song V. Formative research for developing targeted skin cancer prevention programs for children in multiethnic Hawaii. *Health Education Research*, 14:155-166, 1999.
5. Glanz K, Chang L, Song V, Silverio R, Muneoka L. Skin cancer prevention for children, parents, and caregivers: A field test of Hawaii's SunSmart Program. *Journal of the American Academy of Dermatology*, 38:413-417, 1998.
6. Glanz K, Lew RA, Song V, Murakami-Akatsuka L. Effects of a skin cancer prevention program in outdoor recreation settings: The Hawaii SunSmart Program. *Effective Clinical Practice*, 3:53-61, 2000.
7. Glanz K, Maddock J, Lew RA, Murakami-Akatsuka L. A randomized trial of the Hawaii SunSmart Program's impact on outdoor recreation staff. *Journal of the American Academy of Dermatology*, in Press, 2001.
8. Glanz K, Silverio R, Farmer A. Diary reveals sun protective practices. *The Skin Cancer Foundation Journal*, 14:27-28, 86, 1996. Reprinted as "Daily diary reveals sun protective practices" in *Primary Care and Cancer*, 17 (5):21-23, 1997.

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tomy and its availability now a in Hawaii, our patients with severe sweaty palms have another effective treatment available.

Why "Watch the Wasabe"? Most people in Hawaii, and indeed around the world, now know to watch the Wasabe and not eat it all at once. In a letter to the editor "Horseradish Horrors: Sushi Syncope" in the *Journal of the American Medical Association*,<sup>5</sup> a 63-year-old man ate the whole (glob) of wasabe at his first Japanese meal and had vasomotor near-collapse. Among his many symptoms was severe diaphoresis not merely palmar hyperhidrosis

In summary, try conservative methods to treat your severe palmar sweating patients, but because it does impact positively on their quality of life consider referral for transthoracic endoscopic sympathectomy and... watch the wasabe.

### References

1. Bates, B. Efficacy of Antiperspirants Delivery Systems in Novel Antiperspirants Treats Axillary Hyperhidrosis. *Skin and All News* January 2000: 20.
2. Atkins Di, Meisenheimer JL, and Dobson RL. Efficacy of the Dryonic Unit in the Treatment of Hyperhidrosis. *J Am Acad Dermatol* 1987; 16: 828-832.
3. ShelleyWB, TaiananNY and ShelleyED. Botulinum Toxin Therapy for Palmar Hyperhidrosis. *J Am Acad Dermatol* 1988; 38:227-229.
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5. Spitzer, DE. Letter to Editor: Horseradish Horrors: Sushi Syncope. *JAMA* 1988 Jan. 8; 259(2):218-219